

5.0 Consultation, Coordination, and Public Involvement



This chapter details the consultation and coordination between Reclamation and other State, Federal, and local agencies, Native American tribes, and the public in the preparation of this environmental impact statement (EIS). Since the Notice of Intent to prepare this EIS was published in June 2000, input has been actively solicited from a broad range of public constituencies as part of the ongoing public involvement process. Comments and involvement in the planning for and preparation of the Flaming Gorge EIS were generally sought through two broad efforts: communication and consultation with a variety of Federal, State, and local agencies, Native American tribes, and interest groups; and the formal EIS scoping process which invited input from the general public.

5.1 CONSULTATION AND COORDINATION WITH OTHER AGENCIES AND ORGANIZATIONS AND NATIVE AMERICAN TRIBES

In June and July 2000, Reclamation invited a number of State and Federal agencies and the Northern Ute Tribe to become cooperating agencies in the preparation of this EIS. The eight agencies that agreed to become cooperating agencies for this EIS are listed at section 1.1.2. Reclamation has hosted periodic cooperating agency meetings throughout the preparation of this EIS, to ensure that all of the agencies were informed of and involved in the issues and analyses related to the EIS. Other interested tribes, government agencies, and public organizations and individuals have been kept informed on the status and progress of EIS preparation, as requested.

In July 2000, Reclamation initiated consultation under various cultural resource laws, Executive orders, and regulations with the following tribes: the Southern Ute Tribe, the Ute Mountain Tribe, the Northern Ute Tribe, the Northwest Band Shoshone Tribe, the Wind River Shoshone Tribe, the Hopi Tribe, the Paiute Indian Tribe of Utah, the Kaibab Paiute Tribe, the Pueblo of Nambe, the Pueblo of Zia, the Pueblo of Laguna, and the Pueblo of Zuni. Consultation with interested tribes has been an ongoing process and included a briefing on the EIS for the Northern Ute Business Council and a field visit with representatives of the Wind River Shoshone Tribe. None of the tribes expressed concerns regarding either traditional cultural properties or sacred sites within the area of potential effect.

5.2 PUBLIC INVOLVEMENT

Section 1.3 details the scoping process for this EIS. As stated during the scoping hearings, meetings with Reclamation staff were available to the interested public throughout the period of EIS scoping and preparation. Throughout the preparation of this EIS, the Flaming Gorge EIS Home Page on the Upper Colorado Region, Bureau of Reclamation web site has been updated and available to all with Internet access. In November 2001, a newsletter regarding the development of the EIS was sent to those on the EIS mailing list.

This draft EIS has been distributed, as detailed below, for a 60-day comment period, during which time four public hearings to receive oral comments will be held. All comments, both written and oral, received during the comment period for this draft EIS will be considered and addressed during the preparation of the final EIS.

5.3 DISTRIBUTION LIST

This EIS has been sent to the following agencies, groups, and individuals for their information and review.

Federal Agencies

Advisory Council on Historic Preservation
Department of Agriculture
 USDA Forest Service
 Natural Resources Conservation Service
Department of Army
 Corps of Engineers
Department of Energy
 Office of Policy, Safety, and Environment
 Western Area Power Administration
 Argonne National Laboratory
Department of the Interior
 Bureau of Indian Affairs
 Bureau of Land Management
 National Park Service
 U.S. Fish and Wildlife Service
 U.S. Geological Survey
Environmental Protection Agency
Office of Management and Budget

U.S. Congressional Delegation

Colorado
 Representative Scott McInnis, 3rd District
 Senator Wayne Allard
 Senator Ben Nighthorse Campbell
Utah
 Representative Chris Cannon, 3rd District
 Representative Rob Bishop, 1st District
 Representative James Matheson, 2nd District
 Senator Bob Bennett
 Senator Orrin Hatch
Wyoming
 Representative Barbara Cubin
 Senator Mike Enzi
 Senator Craig Thomas

American Indian Tribal/National Governments

Kaibab Paiute Indian Reservation, Pipe Spring, Arizona
Northern Ute Tribe of the Uintah and Ouray Reservation, Fort Duchesne, Utah
Pueblo of Zuni, Zuni, New Mexico

State Legislators

Colorado
Representative Gregg Rippey, District 57, Denver
Senator Jack Taylor, District 8, Denver

Utah
Representative Jack A Seitz, District 55, Vernal
Representative Gordon E. Snow, District 54, Roosevelt
Representative David Ure, District 53, Kamas
Senator Beverly Evans, Altamont
Senator David Gladwell, Ogden

Wyoming
Representative John M. Hastert, District 39, Green River
Representative Mick Powers, District 18, Lyman
Representative Marty Martin, District 48, Rock Springs
Representative Fred Parady, District 17, Rock Springs
Representative Bill Thompson, District 60, Green River
Representative Pete Jorgenson, District 16, Rock Springs
Senator Tex Boggs, District 13, Rock Springs
Senator Larry Caller, District 14, Green River
Senator Rae Lynn Job, District 12

State Agencies

Arizona
Governor
Arizona Department of Water Resources, Phoenix

Colorado
Governor
Local Affairs Department/Division of Local Government, Department of Law, Denver
Colorado Department of Natural Resources, Denver

Utah
Governor
Department of Natural Resources, Salt Lake City
State of Utah Trust Lands, Salt Lake City
State Parks and Recreation, Salt Lake City
Utah Division of Water Resources
Utah Division of Wildlife Resources
Utah Farm Bureau Federation
Utah State Clearing House

Wyoming
Governor
Wyoming Department of Environmental Quality, Cheyenne
Wyoming Department of State Parks and Cultural Resources, Cheyenne
Wyoming Division of Economic and Community Development, Cheyenne
Wyoming Game and Fish, Cheyenne, Wyoming, and Green River, Utah
Wyoming Office of Federal Land Policy, Cheyenne
Wyoming State Engineer's Office, Cheyenne
Wyoming State Historic Preservation Office, Cheyenne

County Governments

Daggett County Commission, Manila, Utah
Uintah Basin Association of Governments, Roosevelt, Utah
Sweetwater Commission, Green River, Wyoming
Uintah County Commission, Vernal, Utah
Uintah County Mosquito Abatement District

Irrigation Districts and Water Users Organizations

Carbon Water Conservancy District, Helper, Utah

Central Utah Water Conservancy District,
Orem, Utah
Colorado River Board of California,
Glendale, California
Colorado River Commission of Nevada,
Las Vegas, Nevada
Colorado River Water Conservation District,
Glenwood Springs, Colorado
Colorado River Water Users Association,
Coachella Valley Water District,
Coachella, California
Colorado Water Conservation Board, Denver,
Colorado
Duchesne County Water Conservancy
District, Roosevelt, Utah
Moon Lake Water Users Association,
Roosevelt, Utah
Provo River Water Users Association, Orem,
Utah
Upper Colorado River Commission, Salt
Lake City, Utah
Utah Water Users Association, Murray, Utah

Libraries

Colorado
Denver Public Library, Denver
Mesa County Public Library, Grand
Junction
Norlin Library, University of Colorado,
Boulder
Utah
Daggett County Library, Manila
Duchesne County Library, Roosevelt
Grand County Library, Moab
Green River City Library, Green River
Harold B. Lee Library, Brigham Young
University, Provo
J. Reuben Clark Law School, Brigham
Young University, Provo
Merrill Library, Utah State University,
Logan
Salt Lake City Public Library, Salt Lake
City
Uintah County Library, Vernal
Ute Indian Tribe Library, Fort Duchesne
Wyoming
Hay Library, Western Wyoming
Community College, Rock Springs
Rock Springs Library, Rock Springs

Sweetwater County Library, Green River
White Mountain Library, Rock Springs

Interested Organizations

Action Network Activist, Eden Prairie,
Minnesota
American Fisheries Society, Garden City,
Utah
American Rivers, Lincoln, Nebraska;
Washington, DC
Basin Sports, Vernal, Utah
Cedar Springs Marina
Clipper Publishing Company, Bountiful, Utah
Colorado Energy Distributors Association,
Tempe, Arizona
Colletts Recreation Service
Cooper Printing and Publishing, Magna, Utah
Dinosaur Expeditions, Park City, Utah
Dinosaurland Travel Board, Vernal, Utah
Don Hatch River Expeditions, Vernal, Utah
Eagle Outfitters Inc., Layton, Utah
Engineering and Planning Consultants,
Loveland, Colorado
Flaming Gorge Chapter-PFUSA, Rock
Springs, Wyoming
Flaming Gorge Corporation, Manila, Utah
Flaming Gorge Lodge, Dutch John, Utah
Flaming Gorge Yacht Club, Bountiful, Utah
Foundation of North American Wild Sheep,
Salt Lake City, Utah
Future Resources, Vernal, Utah
Grand Canyon Monitoring and Research
Center, Flagstaff, Arizona
Grand Canyon River Guides, Flagstaff,
Arizona
Grand Canyon Trust, Flagstaff, Arizona
Green River Drifters Inc., Dutch John, Utah
Green River Outfitters and Guide
Association, Dutch John, Utah
Holiday Expeditions, Salt Lake City, Utah
Interstate Stream Commission, Santa Fe,
New Mexico
JBR Environmental Consultants, Murray,
Utah
Living Rivers, Moab, Utah
National Parks Conservation Association,
Visalia, California, and Long Branch,
New Jersey
Old Moe Guide Service, Dutch John, Utah
Questar, Rock Springs, Wyoming

Pinedale Roundup, Pinedale, Wyoming
 Quad/Photo, New York, New York
 Red Canyon Lodge, Dutch John, Utah
 Rocky Mountain Elk Foundation, Missoula,
 Montana
 Southwest Rivers, Flagstaff, Arizona
 Sweetwater Economic Development
 Association, Rock Springs, Utah
 The Nature Conservancy, Boulder, Colorado;
 Arlington, Virginia; Madison, Wisconsin
 Tidal View, West Tremont, Maine
 Trout Unlimited, Salt Lake City, Utah
 Utah Associated Municipal Power
 Systems, Salt Lake City, Utah
 Utah Council Trout Unlimited, South Weber,
 Utah
 Utah Farm Bureau Federation, Payson, Utah
 Utah Habitat Council, Salt Lake City, Utah
 Utah Municipal Power Agency, Spanish Fork,
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 Utah Rivers Council, Salt Lake City, Utah
 Utah Water Project Trout Unlimited, Sandy,
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 Western River Flyfisher, Salt Lake City, Utah
 White Water Canoe Colorado, Greeley,
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 Angelde Armendi, Miami, Florida
 Dave Armstrong, Salt Lake City, Utah
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 Jim Aton, Cedar City, Utah
 Gina Baker, Star City, Indiana
 Scott Baker, Draper, Utah
 D. Barbero, Rock Springs, Wyoming
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 Vicki Brown, Ukiah, California
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 Karen Budd, Placerville, California
 Melissa Buhler, St. Petersburg, Florida
 Martha Bushnell, Boulder, Colorado
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 Wyoming
 Ron Carey, Green River, Wyoming
 Bret Carlson, Salt Lake City, Utah
 Dustin Carlson, Salt Lake City, Utah
 Colin Carr-Hall, Roseville, California
 Steven Chadwick, West Jordan, Utah
 Ray Channell, Decatur, Georgia
 David Chapman, Green River, Wyoming
 Susan Child, Cheyenne, Wyoming
 Todd Christensen, Orem, Utah
 Steve Cichowski, Freeman, Missouri
 William Coan, Rockford, Illinois
 Tina Cohenour, Edgewood, New Mexico
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 Kristin DeJohn, Acton, Massachusetts
 Jay Denis, Melrose, Massachusetts
 James Denison, Long Beach, California
 Guy Denton, Vernal, Utah
 James Derzon, Falls Church, Virginia
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 Wright Dickinson, Maybell, Colorado
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 Marlin Dixon, Cumming, Georgia
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 William Dolenc, Rock Springs, Wyoming
 Lynn Dorsett, Scottsdale, Arizona
 Rachel Dowell, Bexley, Ohio
 Nicholas Dracka, Grosse Ile, Michigan
 David Dredge, Salt Lake City, Utah
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 Michael Dunn, Ogden, Utah
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 Matt Ellsworth, Geneva, New York
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 Beverly Evans, Altamont, Utah
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 Tamala Gage, Roscommon, Michigan
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 Peter Germuska, Gainesville, Florida
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 Greg Grimes, Marietta, Ohio
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 Judith Hallberg, Middletown, New Jersey
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 Dave Hanks, Rock Springs, Wyoming
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 Sam Haslem, Jensen, Utah
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 Irvin Haws, Vernal, Utah
 Emmett Heath, Dutch John, Utah

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 Randall Johnson. Sandy, Utah
 Roger Jones, Rock Springs, Wyoming
 Virgil Jones, Coachella, California
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 G. Richard Judd, Spanish Fork, Utah
 Jeff Judkins, Lander, Wyoming
 Dedjoravon Jutaz, New York, New York
 Diane Kahan, Los Angeles, California
 Anjanette Kalb, Laramie, Wyoming
 Gregory Karpf, Studio City, California
 Bruce Kautz, Colorado Springs, Colorado
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 Elizabeth Kiilerich, Nashville, Tennessee
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 William Koenig, Casper, Wyoming
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 Steve Kuyon, Girard, Pennsylvania
 Jeff Laforteza, Long Beach, California
 Owen Lammers, Moab, Utah
 Scott Lammers, Mt. Prospect, Illinois
 Laura Lane, Owasso, Oklahoma
 Shane Larsen, Salt Lake City, Utah
 John Lee, South Jordan, Utah

Victoria Lehman, Waldorf, Maryland
 Donald Leitch, Jackson, New Jersey
 Adam Lerrick, Rock Springs, Wyoming
 Adam Lerrick, Barrytown, New York
 Todd Liebelt, Rock Springs, Wyoming
 David Lillie, Boulder, Colorado
 Richard Linsenmann, Valparaiso, Indiana
 Dave and Luella Littlefield, Kemmerer,
 Wyoming
 Curt A. Livingston, Dennisport,
 Massachusetts
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 Noah Long, Brunswick, Maine
 Julia Loomis, Banks, Arkansas
 David Loucks, Rock Springs, Wyoming
 Charles M. Love, Rock Springs, Wyoming
 Rayland and Linda Loveless, Lyman,
 Wyoming
 M.H. Lund, Ogden, Utah
 Robert Lynam, Rock Springs, Wyoming
 Robert Lynch, Phoenix, Arizona
 Patrick Mack II, Green River, Wyoming
 Dan Maddigan, Liberty, Pennsylvania
 Timothy Mahar, Destin, Florida
 Mark Mainieri, Granville, Ohio
 Wade Malloy, Green River, Wyoming
 Ken Maloney, Huntington Beach, California
 Cynthia Marentette, Dolph, Arkansas
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 Alan A. Matheson, Jr., Sandy, Utah
 Jennifer Mathews, Baton Rouge, Louisiana
 Mary Mathews, Lake Forest, Illinois
 Linda Matthews, Murray, Utah
 Mark Matthies, Tumwater, Washington
 Dan and Jane Mazzoni-Maddigan, Library,
 Pennsylvania
 Dennis McAfee, Rock Springs, Wyoming
 Sharon McConnell, Ferndale, Michigan
 Doug McCuddy, Green River, Utah
 David R. McDonough, Green River,
 Wyoming
 Michael McFarland, Fresno, California
 Janelle McGahee, Dearing, Georgia
 Margaret McGinnis, Hull, Massachusetts
 Don and Sharyn McKenzie, Rock Springs,
 Wyoming
 Robert McLean, Eden, Utah
 Joe Meagher, Houston, Texas
 Michael Meeks, Memphis, Tennessee
 Pat Mehle, Rock Springs, Wyoming
 Geraldine Mellon, Hazel, Kentucky

Karla Linn Merrifield, Kent, New York
 Linda Messatzzia, South Hampton,
 Pennsylvania
 Dwight and Rosemary Mickey, Reliance,
 Wyoming
 Bill Miller, Cheyenne, Wyoming
 William Mills, Reston, Virginia
 Jenny Mocol, Mankato, Minnesota
 Maya Moiseyev, San Francisco, California
 Mardell Moore, Seattle, Washington
 Tracy Moore, Las Vegas, New Mexico
 Hana Morin, Odessa, Texas
 Rebecca Morris, Camden, Delaware
 Moe Morrow, Rock Springs, Wyoming
 Rose Mosbey, Rock Springs, Wyoming
 Tara Murphy, Whiting, New Jersey
 Keir Mussen, Annandale, Virginia
 Daniel Muzquiz, Princeton, North Carolina
 Phayth Myer, Greensboro, North Carolina
 Thea Necker Wachter, Denver, Colorado
 W. Lynn Nelson, Vernal, Utah
 Landon Neustadt, Buellton, California
 Ray Newman, Rock Springs, Wyoming
 Burno Niccoli, Dutch John, Utah
 Ruth Niswander, Davis, California
 Francis J. Noell, III, Bozeman, Montana
 Kevin Nothnagel, Canton, Michigan
 Yesenia Nunez, Austin, Texas
 Dagmar Nye, Anchorage, Alaska
 Gwendolyn Nyman, Los Angeles, California
 Dorothy E. O'Connel, Fairplay, Colorado
 Bridgid O'Connor, Brunswick, Maine
 Jenny O'Connor, Brunswick, Maine
 Jack O'Neill, Chatham, New Jersey
 William Ohlsen, Salt Lake City, Utah
 Gary Oliver, Abilene, Texas
 Scott Olsen, Tulsa, Oklahoma
 Jane Olson, Sidney, Montana
 Bruce Omacka, Port St. Louie, Florida
 David Orr, Knoxville, Tennessee
 Tom Ortega, Rock Springs, Wyoming
 Christopher M. Ostermueller, Aspinwall,
 Pennsylvania
 Jessica Owley, Oakland, California
 Pat Pacheco, Rock Springs, Wyoming
 David Page, Telluride, Colorado
 Terry Patterson, Knoxville, Tennessee
 Cathrine Payson, Brunswick, Maine
 Ray Pecolar, Rock Springs, Wyoming
 Sandra Pendleton, Kingston, Washington
 Al Permut, Louisville, Colorado
 Joseph Perry, Rock Springs, Wyoming

Dennis and Ruth Ann Petersen, Midvale,
 Utah
 Todd Peterson, Saranac Lake, New York
 Alexandra Pharmakidis, Providence, Rhode
 Island
 H. Blaine Phillips, II, Vernal, Utah
 Mike Phillips, Page, Arizona
 Steve Pierson, West Jordan, Utah
 Norm Piner, Rock Springs, Wyoming
 Jan Plew, Rock Springs, Wyoming
 Claire Poertner, Debary, Florida
 Alisa Polk, Baton Rouge, Louisiana
 Annette Ponnock, Narberth, Pennsylvania
 Irene Porter-Hunter, Philadelphia,
 Pennsylvania
 Darrell T. Price, Rock Springs, Wyoming
 Jim Probst, Green River, Wyoming
 William J. Puller, Bluffton, South Carolina
 Kayen Pyatt, Rock Springs, Wyoming
 Dean Quinton, Rock Springs, Wyoming
 Mathew Rabbitt, Florissant, Missouri
 Nancy Rader, Berkeley, California
 Andy Randall, Rock Springs, Wyoming
 Jonathan Ratner, Pinedale, Wyoming
 M.D. Ray, Garland, Texas
 Jennifer Reed, Louisville, Kentucky
 Kristin Reed, San Francisco, California
 Cachale Rees, Rock Springs, Wyoming
 Cherie Rees, Vienna, Virginia
 Lachale Rees, Rock Springs, Wyoming
 Harry Reinard, Green River, Wyoming
 Erol Reyel, Milwaukee, Wisconsin
 Bill Richards, Littleton, Colorado
 Penney Richardson, San Francisco, California
 Rick Johnson, Flagstaff, Arizona
 Erin Riddle, Ithaca, New York
 Kelly R. Riedel, South Euclid, Ohio
 Felicia and Bob Ritz, Rockledge, Florida
 Melissa Roberts, Seattle, Washington
 Alexander Rodosevich, Dutch John, Utah
 Paul Rodriguez, Amherst, Massachusetts
 Reeta Roo, Sebastopol, California
 Megan Ropiak, Bangor, Maine
 Gila Rosenfeld, Monsey, New York
 Melba Rowland, Taylors, South Carolina
 Michael Rudzki, Dallas, Texas
 Robert E. Rutkowski, Esquire, Topeka,
 Kansas
 Zugmunt Samiec, Rock Springs, Wyoming
 Lewis Sandbeck, Port Orchard, Washington
 Christine Sandvik, Groton, Massachusetts
 Luke Schankel, Marietta, Ohio

Jeanne Schieferstein, Smithtown, New York
 Jack Schmidt, Ph.D., Logan, Utah
 Cheryl Schwarz, Westminster, Maryland
 Pam Schwebel, Cedar Park, Texas
 Bob Scott, Rock Springs, Wyoming
 Amy Seaberg, Grand Rapids, Michigan
 Karen Shaler, Greensburg, Pennsylvania
 Sally-Ann Shedd, Philadelphia, Pennsylvania
 Dan Shedden, Green River, Wyoming
 Marcia Sheppard, Iowa City, Iowa
 Yevgenya Shevtsov, Los Angeles, California
 Robert Shipley, Weed, California
 Hal Simpson, Denver, Colorado
 Shelly Skoog-Smith, Goleta, California
 Lynn Sleight, Duchesne, Utah
 David Sligh, Signal Mountain, Tennessee
 Lynne Slightom, Springfield, Illinois
 Brian Smith, Redwood Valley, California
 Todd Smith, Boulder, Colorado
 Gary Sparks, Green River, Wyoming
 Richard Spotts, Ashland, Wisconsin
 Tim D. Steidle, Castle Rock, Colorado
 Jim Steitz, Forest Lake, Minnesota
 Kenny Stewart, Vernal, Utah
 Bob Storti, Spring Hill, Florida
 Phil Strobel, Denver, Colorado
 Brian Sussman, Rolling Meadows, Illinois
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 Deanna Tachna, Birmingham, Michigan
 Bill Talraferro, Rock Springs, Wyoming
 Laretta Tanner, Green River, Wyoming
 Les Tanner, Green River, Wyoming
 Brooke Taylor, Charlotte, North Carolina
 John Taylor, Boulder, Colorado
 Matt Taylor, Reisterstown, Maryland
 David Tetreault, Catoosa, Oklahoma
 Ron Thigpen, Raleigh, North Carolina
 Julie Thollaug, Mortara, California
 James Thompson, Salt Lake City, Utah
 Marthalie Thurston-Lee, Hobe Sound, Florida
 Patrick and Robin Tierney, Half Moon Bay,
 California
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 Michael Woodruff, Phippsburg, Maine
 Ronnie Wright, St. Pete Beach, Florida
 Tenly Wurglite, Brunswick, Maine
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 Susan Yaukey, Boulder, Colorado
 Megan Young, Charlotte, North Carolina
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Media

Cache Citizen, Logan, Utah
 Daily Rocket-Miner, Rock Springs, Wyoming
 Daily Spectrum, St. George, Utah
 Deseret News, Salt Lake City, Utah
 Hilltop Times, Hill Air Force Base, Utah
 Journal Publications, Springville, Utah
 KVEL Radio 920, Vernal, Utah

Lakeside Review, Layton, Utah
Logan Herald Journal, Logan, Utah
Millard County Chronicle Progress, Delta,
Utah
Newtah News Group, American Fork, Utah
Orem-Geneva Times, Orem, Utah
Park Record, Park City, Utah
Provo Daily Herald, Provo, Utah
Richfield Reaper, Richfield Utah
Salt Lake City Weekly, Salt Lake City, Utah
Salt Lake Tribune, Salt Lake City, Utah
San Juan Record, Monticello, Utah

Spanish Fork Press, Spanish Fork, Utah
Sun Advocate, Price, Utah
The Event News Weekly, Salt Lake City,
Utah
The Leader, Tremonton, Utah
The Ogden Standard Examiner, Ogden, Utah
The Orem Daily Journal, Springville, Utah
The Times Independent, Moab, Utah
Tooele Transcript Bulletin, Tooele, Utah
Uintah Basin Standard, Roosevelt, Utah
Vernal Express, Vernal, Utah
Wave Publishing, Heber City, Utah

List of Preparers



This draft environmental impact statement was prepared by the Bureau of Reclamation, Upper Colorado Region, Provo Area Office. The names of persons who prepared various sections, provided extensive background information, or participated to a significant degree in preparing the document are listed below.

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Name and Title	Education and Professional Experience	EIS Responsibility
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Russ Findlay Fish and Wildlife Biologist	MS, Wildlife and Range Resource Management Federal Service: 12 Years	Ecological Resources
Preston Paul Frischknecht Biologist	BS, Environmental Studies and Biology Federal Service: 2 Years	Maps; Graphics; Ecological Resources; Aquatic Animals
Jared Hansen Hydraulic Engineer	MS, Civil Engineering Licensed Professional Engineer Federal Service: 12Years	Public Safety
Beverley Heffernan Environmental Protection Specialist	AB, History Federal Service: 18 Years	Executive Summary and Portions of Chapters 1-4

**U.S. Department of the Interior
Bureau of Reclamation
Provo Area Office (continued)**

Name and Title	Education and Professional Experience	EIS Responsibility
Jim Jensen Landscape Architect	BLA, Licensed Landscape Architect Licensed Land Surveyor Federal Service: 25 Years	Recreation
Jonathan Jones Supervisory Resource Management Specialist	BS, Civil Engineering Licensed Professional Engineer Federal Service, 13 Years	Water Rights
David Krueger Supervisory Civil Engineer	BS, Civil Engineering Federal Service: 22 Years	Alternate Team Leader; Land Use
Joan Liechty Writer-Editor	MA, English Federal Service: 21 Years	Technical Writer-Editor
Dick Marvin Realty Technician	BS, Industrial Education Federal Service: 19 Years	Land Use
Don Merrill Public Involvement Specialist	Federal Service: 17 Years	Public Involvement
Steve Noyes Civil Engineer	MS, Civil Engineering Licensed Professional Engineer Federal Service: 32 Years	Water Quality
Kate O'Hare, Program Specialist	Federal Service: 34 Years	Public Involvement

**Bureau of Reclamation
Denver Office
Technical Service Center**

Name and Title	Education and Professional Experience	EIS Responsibility
Patty Alexander Technical Editor	Federal Service: 20 Years	Editorial Review, Design, Desktop Publishing
Susan Black Social Science Analyst	BA, Economics Federal Service: 20 Years	Indian Trust Assets; Environmental Justice
Rob M Davis Agricultural Economist	PhD, Agricultural Economics Federal Service: 7 Years	Agricultural Impacts
Earl Ekstrand Resource Economist	PhD, Resource Economics Federal Service: 10 Years	Economic Analysis of Hydropower and Air Quality
Bob Hamilton Manager, Economics Group	MS, Economics Federal Service: 27 Years	Economic Impacts and Hydropower Impacts
Joseph Lyons Hydraulic Engineer	MS, Hydrology Federal Service: 21 Years	Team Leader, Water Resources
Jonathan Platt Resource Economist	MS, Natural Resource Economics Federal Service: 17 Years	Team Leader, Socioeconomics
Mohammed Samad Hydraulic Engineer	PhD, Civil Engineering Licensed Professional Engineer Federal Service: 12 Years	Sediment Transport Analysis
Darrell Welch Outdoor Recreation Planner	BA, Resource Management and Development Federal Service: 21 Years	Team Leader, Recreation

**Bureau of Reclamation
Upper Colorado Region**

Name and Title	Education and Professional Experience	EIS Responsibility
Arlo Allen Upper Colorado Region Power Office Manager	BS, Electrical Engineering Management and Policy Federal Service: 32 Years	Operations and Maintenance; Hydropower
Karen Barnett Wildlife Biologist	BS, Biology/Botany Federal Service: 10 Years	Riparian/Wetland; Endangered Species
Jane Blair Civil Engineer	MS, Civil Engineering Licensed Professional Engineer Federal Service: 23 Years	Operations and Maintenance; Emergency Operations
Warren Blanchard Manager, Flaming Gorge Field Division	Flaming Gorge Dam Manager, 5 Years Federal Service: 30 Years	Team Leader, Operations and Maintenance
Rick Clayton Hydraulic Engineer	BS, Civil Engineering BS, Economics Water Resources Operations/ Hydrologic Modeling, 3 Years Federal Service: 5 Years	Reservoir Operations/Hydrology
Nancy Coulam Lead Environmental Protection Specialist	PhD, Anthropology Federal Service: 15 Years	Cultural Resources
Amy T. Cutler Hydraulic Engineer	ME, Civil Engineering Federal Service: 4 Years	Reservoir Temperature Modeling
Andrew Gilmore Hydraulic Engineer	MS, Civil Engineering Water Resources Operations/ Hydrologic Modeling, 3 Years Federal Service: 3 Years	Hydrology
Bonnie Heath Realty Specialist, Land Management	Federal Service: 27 Years	Team Leader, Land Use
Lisa Iams Upper Colorado Region Internet Project Manager	BS, Communications Federal Service: 11 Years	Development/Maintenance of FGEIS Web Site
Jayne Kelleher Writer-Editor	Federal Service: 25 Years, Including 13 Years as a Writer-Editor	Lead Technical Writer
Dennis Kubly Lead Supervisory Biologist	MA, Zoology Private Environmental Consultant, 5 Years Research Biologist for Arizona Game and Fish Department, 15 Years Federal Service: 4 Years	Water Quality and Fish
Jerry Miller Water Quality Scientist	BS, Geology/Chemistry Federal Service: 25 Years	Water Quality and Water Temperature
Brian Parry Program Manager	JD, Native American Affairs MS, Human Resources Management Federal Service: 18 Years	Indian Trust Asset
Randall Peterson Manager, Environmental Resources Division	BS, Civil Engineering Federal Service: 26 Years	Environmental Resources Review and Oversight
Tom Scoville Environmental Protection Specialist	BA, Biology Federal Service: 26 Years	Team Leader, Health and Safety; Disease Vectors

**U.S. Department of the Interior
Fish and Wildlife Service**

Name and Title	Education and Professional Experience	EIS Responsibility
Thomas Chart	BS, MS Fish and Wildlife Biology Federal Service: 5 years	Fisheries and Wildlife

**U.S. Department of Agriculture
Forest Service**

Name and Title	Education and Professional Experience	EIS Responsibility
Brent Hanchett Landscape Architect	BLA Licensed Landscape Architect Federal Service: 35 Years	Visual Resources
Garth Heaton Consultant, Ashley National Forest	BS, Forestry and Forest Recreation Federal Service: 31 Years	Recreation and Socioeconomics

**Department of Energy
Western Power Administration**

Name and Title	Education and Professional Experience	EIS Responsibility
Mary Barger Federal Preservation Officer	BA, Anthropology Federal Service: 26 Years	Cultural Resources
Clayton Palmer Manager, Environmental and Resource Planning (Western's Colorado River Storage Project Office)	MA, Economics Federal Service: 16 Years	Hydropower Generation; Financial Analysis

**Department of Energy
Argonne National Laboratory
(Operated by University of Chicago)**

Name and Title	Education and Professional Experience	EIS Responsibility
Tomas D Veselka Energy Systems Engineer (Employed by University of Chicago)	MS, Meteorology Professional Experience: 22 Years	Economic Analysis of Hydropower

**Operation of Flaming Gorge Dam
Draft Environmental Impact Statement
Conversion Tables**

U.S. Customary to Metric

Multiply	By	To Obtain
inches(inches)	25.4	millimeters
inches (inches)	2.54	centimeters
feet (ft)	0.3048	meters
miles (mi)	1.609	kilometers
square feet (ft ²)	0.0929	square meters
acres	0.4047	hectares
square miles (mi ²)	2.590	square kilometers
gallons (gal)	3.785	liters
cubic feet (ft ³)	0.02832	cubic meters
acre-feet	1,233.0	cubic meters
pounds (lb)	0.4536	kilograms
tons (ton)	0.9072	metric tons

Temperature in degrees Fahrenheit (°F) can be converted to
degrees Celsius (°C) as follows: °C = 5/9 (°F - 32)

Metric to U.S. Customary

millimeters (mm)	0.03937	inches
centimeters (cm)	0.3937	inches
meters (m)	3.281	feet
kilometers (km)	0.6214	miles
square meters (m ²)	10.76	square feet
square kilometers (km ²)	0.3861	square miles
hectares (ha)	2.471	acres
liters (L)	0.2642	gallons
cubic meters (m ³)	35.31	cubic feet
cubic meters (m ³)	0.0008110	acre-feet
grams (g)	0.03527	ounces
kilograms (kg)	2.205	pounds
metric tons (t)	1.102	tons

Temperature in degrees Celsius (°C) can be converted to
degrees Fahrenheit (°F) as follows: °F = 1.8 (°C) + 32

Other Useful Conversion Factors

acre-feet	43,560	cubic feet
acre-feet	325,851	gallons
cubic feet per second (cfs)	1.9835	acre-feet per day
cubic feet per second (cfs)	724.0	acre-feet per day

Glossary



A

Acre-foot: The volume of water that would cover 1 acre, 1 foot deep.

B

Base load: Demand level of a utility that is continuous throughout the season.

C

Capacity: The amount of electric power for which a generating unit is rated by the manufacturer.

Cavitation: A physical process that can occur when water flows across a surface at high velocity.

Cubic foot per second (cfs): Rate of streamflow; a cubic foot of water passing a reference section in 1 second of time; 1 cfs = 0.0283 cubic meters per second.

Consumer surplus: A measure of recreation value based on the increment of recreator willingness-to-pay over and above the incurred cost per visit.

Control area: An area comprised of an electric system or systems, bounded by interconnection metering and telemetry, capable of controlling generation to maintain its interchange schedule with other control areas, and contributing to frequency regulation of the interconnection.

Cultural resources: Any buildings, sites, districts, structures, or objects significant in history, architecture, archaeology, culture, or science.

E

Economic benefits: Economic benefits attempt to measure changes in societal or national welfare based on net value concepts, including consumer surplus and producer profitability.

Employment: Total of hourly wage, salary, and self-employed jobs (part-time and full-time), measured in terms of jobs, not full-time equivalents

Energy: Electric capacity generated and delivered over time, usually measured in kilowatthours.

F

Facility availability approach: A methodology used to calculate reservoir recreation visitation. The approach evaluates changes in visitation as a function of changing facility availability as water levels fluctuate.

Facility substitution: The potential for recreators to move between facilities at a site as a given facility becomes unusable.

G

Gigawatt (GW): 1,000 megawatts or 1 billion watts.

Gigawatthour (GWh): A unit equal to 1,000 megawatt-hours.

H

Historic properties: Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties

of traditional religious and cultural importance to an Indian tribe and that meet the National Register of Historic Places criteria.

I

Indian tribe: An Indian tribe, band, nation, or other organized group or community, which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.

Input-Output (IO) analysis: IO estimates regional economic impacts based on a region's interindustry trade linkages. The analyses present changes in total economic impact as measured by the sum of direct effects (impacts to initially affected industries), indirect effects (impacts to industries providing inputs to directly impacted industries), and induced effects (impacts from employees spending wages within the region), all caused by the initial change in demand.

Insectivorous: Feeding on insects.

Invertebrate: Animals lacking a spinal column.

K

Kilowatt (KW): Unit of electric power (capacity) equal to 1,000 watts, or 1.34 horsepower.

Kilowatthour (KWh): Basic unit of electric energy equaling an average of 1 kilowatt of power applied over 1 hour.

L

Linear interpolation approach: A procedure used in the recreation analysis to calculate visitation and value. The procedure uses percentages based on five data points (low end thresholds, current conditions, preferred conditions, high end kink

conditions, and high end thresholds), measured in terms of river flows/reservoir water levels, visitation, and valuation. If an alternative's flows fall 75 percent of the way between current and preferred flow conditions, the procedure calculates visitation and value to also fall 75 percent of the way between the current and preferred visitation and value data points.

Littoral: Pertaining to the shore.

Littoral zone: The zone or strip of land along the shoreline between the high and low water marks. That portion of a body of fresh water extending from the shoreline lakeward to the limit of occupancy of rooted plants.

M

Mean sea level: Average level of the ocean between high and low tide.

Megawatt (MW): 1,000 kilowatts or 1 million watts.

Megawatthour (MWh): A unit equal to 1,000 kilowatthours.

Mesic: Characterized by moderately moist conditions; neither too wet nor too dry.

N

National Register of Historic Places (NRHP): A federally maintained register of districts, sites, buildings, structures, architecture, archaeology, and culture.

Net present value: The total current value determined from a comparison of costs and benefits from different time periods, such that all dollar amounts are discounted to present time, using an appropriate discount rate. The sum of the present value of the costs is subtracted from the sum of the present value of the benefits to determine the net present value. The appropriate discount rate is the

rate that equates the value of a dollar in the present time with the value of a dollar in another time.

Nonrenewable resources: Resources such as prehistoric campsites which will not be regenerated in the future. These resources are finite.

P

Paleocene: Relating to the oldest series or epoch of the Tertiary period (57,000,000 to 65,000,000 year B.P.).

Paleontology: Study of life in past geological periods by means of fossil remains.

Passerine birds: Songbirds of perching habits.

Penstock: A pipeline or conduit designed to withstand pressure surges leading from a forebay or reservoir to power-producing turbines or pump units. Conduit used to convey water under pressure to the turbines of a hydroelectric plant. A pressurized pipeline or shaft between the reservoir and hydraulic machinery.

Piscivorous: Feeding on fishes.

Power: Electrical capacity generated, expressed in kilowatts.

Powerplant capacity: Maximum flow that can pass through the turbines, given a full reservoir.

Preference: Priority access to Federal power by public bodies and cooperatives.

Preference customers: Publicly owned systems and nonprofit cooperatives that, by law, have preference over investor-owned systems for purchase of power from Federal projects.

Profitability: Total revenue minus operating costs.

R

Ramp rate (ramping): The rate of change in instantaneous output from a powerplant. The ramp rate is managed to prevent undesirable effects due to rapid changes in loading or discharge. Changes in ramp rate often are implemented to protect habitat and the public from undesirable effects caused by large, sudden changes in riverflows.

Recreation value per visit: Recreator benefits or values per visit are represented by consumer surplus, measured by estimating recreator willingness-to-pay in excess of costs per visit.

Recreation valuation: Recreation valuation reflects the sum of individual recreator benefits or values aggregated across users of a site.

Recreation visit: A recreation visit reflects a round trip excursion from a recreator's primary residence for the main purpose of recreation.

Recreation visitation: Sum of recreation visits across users of a site.

Recruitment: Survival of young plants and animals from birth to a life stage less vulnerable to environmental change.

Redd: The nest that a spawning female salmon digs in gravel to deposit her eggs. Depression in riverbed or lakebed dug by fish to deposit eggs.

Regional economic impacts: Regional economic impacts attempt to measure changes in total economic activity within a specified geographic region, stemming from changes within region expenditures. Regional economic impacts are typically described using such general measures as total industry output, labor income, and employment.

Resource issue: An effect or perceived effect, risk, or hazard on a physical,

biological, social, or economic resource within the affected environment.

Resource indicator: A quantification (measurement) of any environmental consequence arising from the implementation of flow and temperature recommendations that would indicate the presence of certain environmental conditions.

S

Sacred site: See Executive Order 13007. Any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site.

Spot price: Market price of energy at a given moment at a point of exchange.

Sympatric: Occurring in the same area.

T

Tailwater: The water in the natural stream immediately downstream from a dam. The elevation of water varies with discharge from the reservoir. Applied irrigation water that runs off the lower end of a field.

Total industry output: Dollar value of production (sales revenues and gross receipts) from all industries in the region. Total industry output includes the value of inter-industry trade of intermediate goods prior to final manufacture and sale.

Total labor income: Employment income derived at the workplace including wages and benefits (employee compensation) plus self-employed income (proprietary income).

Traditional cultural property (TCP): A site or resource that is eligible for inclusion in the NRHP because of its association with cultural practices or beliefs of a living community.

V

Vertebrate: Animal species with a spinal column.

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Operation of Flaming Gorge Dam Environmental Impact Statement Acronyms and Abbreviations

APE	area of potential effect
ATU	annual thermal units
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
cfs	cubic feet per second
CRFSTC	Colorado River Forecasting Service Technical Committee
CRSP	Colorado River Storage Project
CUP	Central Utah Project
EIS	environmental impact statement
ESA	Endangered Species Act
FGNRA	Flaming Gorge National Recreation Area
2000 Flow and Temperature Recommendations	<i>Flow and Temperature Recommendations for Endangered Fishes in the Green River Downstream of Flaming Gorge Dam</i>
GWh	gigawatthour
IMPLAN	Impact analysis for PLANning
km	kilometer
kWh	kilowatthour
m ³ /s	cubic meters per second
msl	mean sea level
MW	megawatt
NEPA	National Environmental Policy Act
NERC	North American Electrical Reliability Council
NPV	net present value
NRHP	<i>National Register of Historic Places</i>
P.L.	Public Law
PRS	Power Repayment Study
Reclamation	Bureau of Reclamation
Recovery Action Plan	<i>1993 Recovery Implementation Program Recovery Action Plan</i>
Recovery Program	Upper Colorado River Endangered Fish Recovery Program
RPA	Reasonable and Prudent Alternative
SHPO	State Historic Preservation Office
SLCA/IP	Salt Lake City Area Integrated Projects
UDWR	Utah Division of Wildlife Resources
U.S.	United States
U.S.C.	United States Code
USDA Forest Service	United States Department of Agriculture Forest Service
USGS	United States Geological Survey
Western	Western Area Power Administration
YOY	young-of-the-year
§	section
°C	degrees Celsius
°F	degrees Fahrenheit
%	percent